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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of)
Bonnette, et al.)
Patent No. 6,805,684)
Patent Date: 10/19/2004)
Serial Number: 09/930,795)
Filed: 08/16/2001)
For: Thrombectomy Catheter)
and System)

TRANSMITTAL OF
CERTIFICATE OF
CORRECTION

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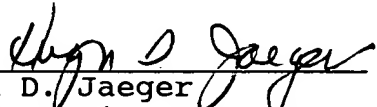
Please find attached a Certificate of Correction, Form PTO/SB/44, for the above patent.

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Respectfully submitted,

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UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

PATENT NO. : 6,805,684
DATED : 10-19-2004
INVENTOR(S) : Bonnette, et al.

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Inventorship

Amend inventor name "Steven E. Wiesel" to read
--Stephen E. Weisel--.

Amend inventor name "Robert C. Dutcher" to read
--Robert G. Dutcher--.

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PATENT NO. 6,805,684

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(12) **United States Patent**
Bonnette et al.

(10) **Patent No.:** **US 6,805,684 B2**
(45) **Date of Patent:** **Oct. 19, 2004**

(54) **THROMBECTOMY CATHETER AND SYSTEM**

(56) **References Cited**

(75) **Inventors:** **Michael J. Bonnette**, Minneapolis, MN (US); **John Edward Morris**, Minneapolis, MN (US); **Steven E. Wiesel**, Montrose, MN (US); **John B. Bridgeman**, Minneapolis, MN (US); **Debra M. Kozak**, Forest Lake, MN (US); **Rosemary C. Beaupre**, Lino Lake, MN (US); **Mark L. Jenson**, Greenville, MN (US); **Cindy M. Setum**, Plymouth, MN (US); **Robert C. Dutcher**, Maple Grove, MN (US)

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(73) **Assignee:** **Possis Medical, Inc.**, Minneapolis, MN (US)

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(*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

* cited by examiner

(21) **Appl. No.:** **09/930,795**

Primary Examiner—Anhtuan T. Nguyen

(22) **Filed:** **Aug. 16, 2001**

Assistant Examiner—Cris L. Rodriguez

(65) **Prior Publication Data**

(74) *Attorney, Agent, or Firm*—Hugh D. Jaeger

US 2001/0051811 A1 Dec. 13, 2001

(57) **ABSTRACT**

Related U.S. Application Data

(62) Division of application No. 09/417,395, filed on Oct. 13, 1999, now Pat. No. 6,676,627, which is a continuation-in-part of application No. 08/349,665, filed on Dec. 5, 1994, now Pat. No. 6,558,366, which is a division of application No. 08/006,076, filed on Jan. 15, 1993, now Pat. No. 5,370,609, which is a continuation of application No. 07/563,313, filed on Aug. 6, 1990, now abandoned.

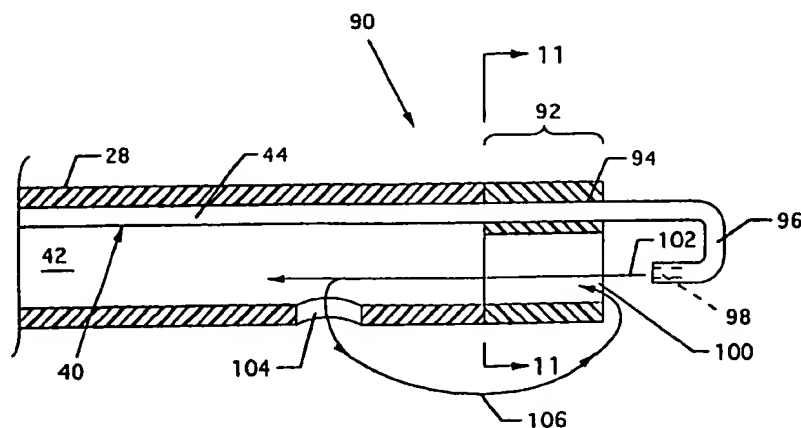
Cross stream thrombectomy catheter and system for fragmentation and removal of thrombus or other material from blood vessels or other body cavities. High velocity saline jets emitted from a toroidal loop jet emanator or other jet emanator in a catheter distal end entrain fluid through inflow orifices, and with flow resistances create a back-pressure which drives cross stream streams through outflow orifices in a radial direction and thence radially and circumferentially to apply normal and drag forces on thrombotic deposits or lesions in the blood vessel or other body cavity, thereby breaking apart and transporting thrombus particles to be entrained through the inflow orifices, whereupon the high velocity jets macerate the thrombus particles which then transit an exhaust lumen or recirculate again via the outflow orifices.

(51) **Int. Cl.⁷** **A61B 17/20**

(52) **U.S. Cl.** **604/22; 604/35; 604/43; 606/159**

(58) **Field of Search** 604/22, 43, 35, 604/27, 48, 118, 119, 19, 264, 523–527; 606/127, 128, 159, 190, 167, 170, 194, 180; 134/167 C, 168 C, 167 R, 172; 433/96; 239/214.15

21 Claims, 26 Drawing Sheets



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